

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International publication date  
11 August 2005 (11.08.2005)

PCT

(10) International publication number  
WO 2005/073662 A1

(51) International patent classification<sup>7</sup>:  
F28D 1/053

F28F 9/02,

(21) International application number: PCT/EP2005/000859

(22) International filing date: 28 January 2005 (28.01.2005)

(25) Language of filing: German

(26) Language of publication: German

(30) Data relating to the priority:  
10 2004 004 494.5 28 January 2004 (28.01.2004) DE

(71) Applicant (for all designated States except US): BEHR  
GMBH & CO. KG; Mauserstrasse 3, 70469 Stuttgart (DE).

(72) Inventors; and

(75) Inventors/Applicants (US only): DÜRR, Gottfried [DE/DE];  
Nachsommerweg 29, 70437 Stuttgart (DE). FÖRSTER, Klaus

[DE/DE]; Wiener Strasse 300, 70469 Stuttgart (DE).  
KOHL, Michael [DE/DE]; Rotes Knie 31/1, 74389  
Cleebronn (DE). NEUMANN, Emil [DE/DE];  
Scottweg 24, 70439 Stuttgart (DE). OTT, Franz  
[DE/DE]; Kahlhieb 13, 70499 Stuttgart (DE).  
SEEWALD, Wolfgang [DE/DE]; Werastrasse 81A,  
70190 Stuttgart (DE).

(74) Joint Representative: BEHR GMBH & CO. KG;  
Mauserstrasse 3, 70469 Stuttgart (DE).

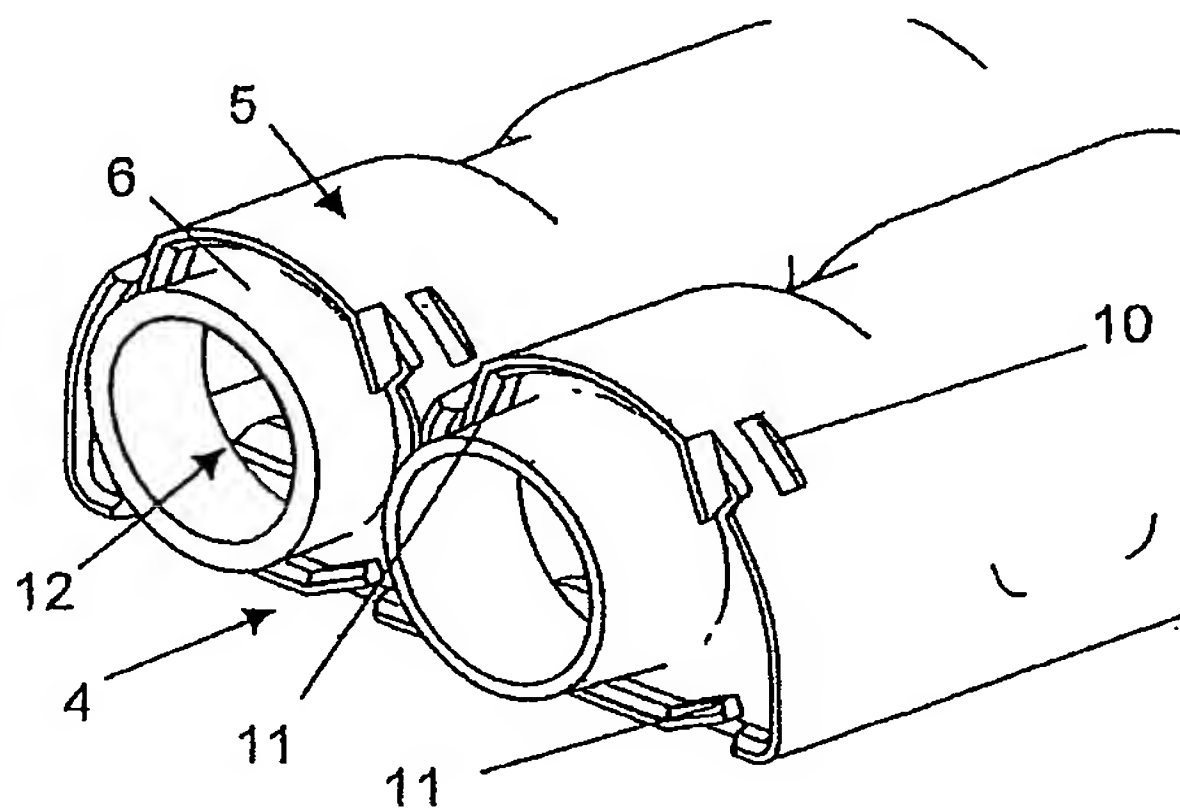
(81) Designated states (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL,  
AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE,  
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,  
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,  
NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[continued on next page]

As printed

(54) Title: HEAT EXCHANGER, IN PARTICULAR A FLAT PIPE EVAPORATOR FOR A MOTOR VEHICLE AIR CONDI-  
TIONING SYSTEM

(54) Bezeichnung: WÄRMETAUSCHER, INSBESONDERE FLACHROHR-VERDAMPFER FÜR EINE KRAFTFAHRZEUG-  
KLIMAANLAGE



(57) Abstract: The invention  
relates to a heat exchanger, in  
particular a flat pipe evaporator  
(1) for a motor vehicle air  
conditioning system, comprising at  
least one collecting tank (2) made  
of sheet steel which is divided in  
the longitudinal direction into at  
least two chambers and the ends  
of the pipe, in particular, flat  
pipes, are introduced in the base  
thereof. Said collecting tank (2)  
comprises a tunnel-shaped part  
(5), an essentially flat part (4)  
which forms the base, and covers  
(6) which are arranged on the front  
side thereof. At least one cover (6)  
is embodied in a flat manner in at  
least the outer edge area thereof  
and is positioned in a positive fit  
in the collecting tank.

(57) Zusammenfassung: Die Erfindung betrifft einen Wärmetauscher, insbesondere Flachrohr-Verdampfer (1) für eine Kraftfahr-  
zeug-Klimaanlage, mit wenigstens einem (Sammelkasten) 2 aus Blech, der in Längsrichtung wenigstens in zwei Kammern unterteilt  
ist und in dessen Boden die Enden von Rohren, insbesondere von Flachrohren, eingeführt sind, und der Sammelkasten (2) einen  
tunnelförmigen Sammelkasten-Teil (5), einen im Wesentlichen ebenen Sammelkasten-Teil (4), der den Boden bildet, und stirnsei-  
tig jeweils Deckel (6) aufweist, wobei mindestens ein Deckel (6) zumindest in seinem äusseren Randbereich eben ausgebildet und  
formschlüssig im Sammelkasten positioniert ist.

WO 2005/073662 A1

(84) Designated states (unless otherwise indicated, for every kind of regional protection available): ARIPO Patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

- of inventorship (Rule 4.17(iv) for the following designation US

**Published:**

- With International Search Report.
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For an explanation of the two-letter codes and the other abbreviations, reference is made to the explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular edition of the PCT Gazette.*